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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,645	03/09/2007	Christian Herrero	P19106-US1	4325

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ERICSSON INC.  
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EXAMINER
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SARWAR, BABAR

ART UNIT	PAPER NUMBER
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2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/597,645	HERRERO, CHRISTIAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	BABAR SARWAR	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 37-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **"Implementing A Secure Handover by Prolonging Packet-switched Signaling Connections"**

### **Preliminary Amendments**

2. **Claims 1-36** have been **cancelled** as per preliminary amendments.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 37-57** are rejected under 35 U.S.C. 103(a) as being unpatentable over Grech et al. (US 2005/0130659 A1) and in view of Prasad (US 2007/0064647 A1), hereinafter referenced as Grech and Prasad.

Consider **claim 37**, Grech discloses an arrangement in a core network node in a mobile radio communication system (**Para 0033-0036, Fig. 1-4, where Grech discloses UMTS/GPRS' nodes GGSN (104, 108), SGSN (105))** for a packet-switched signaling connection (**Para 0032, where Grech discloses PS (Packet Switched service))** between the core network node and a mobile station and means for receiving a request message from the mobile station (**Para 0009-0012, 0018, 0020,, 0025-**

**0046,0079-0084,0096, Figs. 1-4, where Grech discloses a mobile node communicating with GPRS' nodes i.e. making attachments for handover).** Grech does not specifically disclose means for deciding whether to prolong the packet-switched signaling connection; and means for providing information to the mobile station as to whether or not the packet-switched signaling connection is being prolonged. Prasad discloses means for deciding whether to prolong the packet-switched signaling connection; and means for providing information to the mobile station as to whether or not the packet-switched signaling connection is being prolonged (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses a secure handover by delaying the handover up to a successful authentication i.e. prolonging the signaling connection with the current access point or base station).**

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing means for deciding whether to prolong the packet-switched signaling connection; and means for providing information to the mobile station as to whether or not the packet-switched signaling connection is being prolonged, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 38**, the combination teaches everything claimed as implemented above (see claim 37). Prasad specifically discloses that wherein the means for providing information to the mobile station includes means for sending a response message to the mobile station in response to the request message, said response message including an indication as to whether or not the packet-switched signaling connection is being

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prolonged (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses a notification for delaying the handover up to a successful authentication**).

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the means for providing information to the mobile station includes means for sending a response message to the mobile station in response to the request message, said response message including an indication as to whether or not the packet-switched signaling connection is being prolonged, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 39**, the combination teaches everything claimed as implemented above (see claim 38). Grech specifically discloses that wherein the request message received from the mobile station is a mobility management request message (**Para 0009-0012, 0018, 0020,, 0025-0046, 0079-0084, 0096, Figs. 1-4, where Grech discloses handover procedure i.e. mobility management request message**).

Consider **claim 40**, the combination teaches everything claimed as implemented above (see claim 39). Prasad specifically discloses that wherein the response message is an acceptance message concerning the mobility management request message received from the mobile station (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4 element 430, where Prasad discloses forwarding security context information to access point(s)**).

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the response

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message is an acceptance message concerning the mobility management request message received from the mobile station, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 41**, the combination teaches everything claimed as implemented above (see claim 39). Prasad specifically discloses that wherein the request message received from the mobile station includes a request for prolongation of the packet-switched signaling connection (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4 element 430, where Prasad discloses a notification for delaying the handover up to a successful authentication**).

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the request message received from the mobile station includes a request for prolongation of the packet-switched signaling connection, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 42**, the combination teaches everything claimed as implemented above (see claim 41). Grech specifically discloses that wherein the mobile communication system is a Universal Mobile Telecommunication System (UMTS), and the core network node is a Serving GPRS Support Node (SGSN) (**Para 0033-0036, Fig. 1-4, where Grech discloses UMTS/GPRS' nodes GGSN (104, 108), SGSN (105)**).

Consider **claim 43**, the combination teaches everything claimed as implemented above (see claim 42). Prasad specifically discloses that wherein the prolongation request comprises a Follow-on Request (FOR) (**Para 0002, 0009, 0062, 0064, 0089-**

**0096, Fig. 4, where Prasad discloses a process of a secure handover procedure i.e. a Follow-on-Request).**

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the prolongation request comprises a Follow-on Request, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 44**, the combination teaches everything claimed as implemented above (see claim 38). Prasad specifically discloses that wherein the indication in the response message as to whether or not the packet-switched signaling connection is being prolonged is placed in an existing, non-used part of an information element (IE) of the response message (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses a notification for delaying the handover up to a successful authentication**).

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the indication in the response message as to whether or not the packet-switched signaling connection is being prolonged is placed in an existing, non-used part of an information element (IE) of the response message, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 45**, the combination teaches everything claimed as implemented above (see claim 44). Prasad specifically discloses that wherein the indication in the response message as to whether or not the packet-switched signaling connection is

being prolonged comprises a single bit (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses a notification for delaying the handover up to a successful authentication).**

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the indication in the response message as to whether or not the packet-switched signaling connection is being prolonged comprises a single bit, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

**Claim 46**, as analyzed with respect to the limitations as discussed in the claim 37.

**Claim 47**, as analyzed with respect to the limitations as discussed in the claim 39.

**Claim 48**, as analyzed with respect to the limitations as discussed in the claim 41.

Consider **claim 49**, the combination teaches everything claimed as implemented above (see claim 44). Prasad specifically discloses that wherein the control means includes means for preventing the mobile station from sending additional requests to prolong the packet-switched signalling connection if the extracted indication indicates that the packet-switched signalling connection has been terminated (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses delaying the handover up to a successful authentication and upon failure of handing over, resuming communication with the current access point i.e. preventing MS from sending additional requests for prolongation).**

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the control



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means includes means for preventing the mobile station from sending additional requests to prolong the packet-switched signalling connection if the extracted indication indicates that the packet-switched signalling connection has been terminated, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 50**, the combination teaches everything claimed as implemented above (see claim 48). Prasad specifically discloses that wherein the control means includes means for preventing the mobile station from sending a request to establish a new packet-switched signalling connection if the extracted indication indicates that the packet-switched signalling connection has been prolonged (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses delaying the handover up to a successful authentication**).

Therefore, it would have been obvious to one of ordinary skills in the art the time the invention was made to modify Grech by specifically providing wherein the control means includes means for preventing the mobile station from sending a request to establish a new packet-switched signalling connection if the extracted indication indicates that the packet-switched signalling connection has been prolonged, as taught by Prasad, for the purpose of achieving a secure handover as discussed in Para **0013**.

Consider **claim 51**, the combination teaches everything claimed as implemented above (see claim 48). Prasad specifically discloses that wherein the control means includes: means for delaying or rejecting upper layer requests to the packet data node if a GPRS Mobility Management (GMM) procedure is running; and means for sending to the packet data node, a request to prolong the packet- switched signalling connection

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when the GMM procedure is terminated (**Para 0002, 0009, 0062, 0064, 0089-0096, Fig. 4, where Prasad discloses delaying the handover up to a successful authentication i.e. terminate the handover process upon authentication failure**).

**Claim 52**, as analyzed with respect to the limitations as discussed in the claim 37.

**Claim 53**, as analyzed with respect to the limitations as discussed in the claims 47, 48.

**Claim 54**, as analyzed with respect to the limitations as discussed in the claim 44.

**Claim 55**, as analyzed with respect to the limitations as discussed in the claim 51.

**Claim 56**, as analyzed with respect to the limitations as discussed in the claim 49.

**Claim 57**, as analyzed with respect to the limitations as discussed in the claim 50.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BABAR SARWAR whose telephone number is (571)270-5584. The examiner can normally be reached on MONDAY TO FRIDAY 09:00 A.M -05:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NICK CORSARO can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BS/

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